

REMARKS

Claims 12-22 are pending in this application. None of the claims were amended in this response. Favorable reconsideration is respectfully requested.

Claims 12-14, 16, 21 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Nagumo et al.* (US Patent 6,958,730) in view of *Johnson et al.* (US Patent 6,456,249).

Claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Nagumo et al.* (US Patent 6,958,730) in view of *Johnson et al.* (US Patent 6,456,249) and further in view of *Weinberger* (US Pub 2001/0050636).

Claim 17 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Nagumo et al.* (US Patent 6,958,730) in view of *Johnson et al.* (US Patent 6,456,249) and further in view of *Fang et al.* (US Patent 6,788,257). Applicant respectfully traverses these rejections.

Specifically, the prior art, alone or in combination, fails to teach or suggest the features of “a plurality of parasitic transmitters, wherein said transmitters are located marginal to the planar patch antenna and are each embodied so as to be free of a high-frequency interface, wherein the parasitic transmitters are arranged as line-type conductor structures, whereas the structures of the planar patch antenna are arranged as sheet-type conductor structures” as recited in claim 12.

Nagumo discloses a feed radiation electrode including two branched radiation electrodes (16, 17) provided on the surface of a substrate (10), where non-feed radiation electrodes (18, 19) are provided on both sides of the feed radiation electrode and near the branched radiation electrodes (FIG. 1). Nagumo discloses that the branched radiation electrode (16, 17) and the non-feed radiation electrode (18, 19) are double-resonated in the same frequency band, and wherein the branched radiation electrode and the non-feed radiation electrode are double-resonated in the same frequency band which is higher than that of the branched radiation electrode and the non-feed radiation electrode (see Abstract; col. 7, lines 58-67)). As the Office Action has conceded, Nagumo fails to teach that the parasitic transmitters are arranged as line-type conductor structures (see page 2, last paragraph).

In this regard, the Office Action turned to Johnson as allegedly solving the deficiencies of Nagumo. Applicant submits that there is no teaching, suggestion or motivation for one of ordinary skill in the art to combine the Nagumo and Johnson references in the manner suggested in the Office Action.

In making a determination that an invention is obvious, the Patent Office has the initial burden of establishing a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). "If the examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent." *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992).

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of the teachings is proper. *Ex parte Skinner*, 2 USPQ2d 1788 (Bd. Pat. App. & Inter. 1986). (see MPEP 2142).

Further, the Federal Circuit has held that it is "impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." *In re Frutch*, 23 U.S.P.Q.2d 1780, 1784 (Fed. Cir. 1992). "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention" *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

Moreover, the Federal Circuit has held that "obvious to try" is not the proper standard under 35 U.S.C. §103. *Ex parte Goldgaber*, 41 U.S.P.Q.2d 1172, 1177 (Fed. Cir. 1996). "An-obvious-to-try situation exists when a general disclosure may pique the scientist curiosity, such that further investigation might be done as a result of the disclosure, but the disclosure itself does not contain a sufficient teaching of how to obtain the desired result, or that the claim result would be obtained if certain directions were pursued." *In re Eli Lilly and Co.*, 14 U.S.P.Q.2d 1741, 1743 (Fed. Cir. 1990).

Regarding Nagumo, the reference teaches that the structure of the radiating and non-radiating elements requires that the width of the antennas be varied to reduce interference for the purposes of double resonance (see FIG. 1, 12, and 13; “[b]y gradually increasing the width of a slit provided in the plane of the feed radiation electrode to divide the feed radiation electrode into the plural branched radiation electrodes, the mutual interference between the double-resonance pairs is greatly reduced, and matching of the double-resonance is efficiently achieved” (col. 3, lines 46-52). In fact, Nagumo indicates that the modified-width structure of the parasitic elements is necessary for the operation of the antenna:

According to preferred embodiments of the present invention, radio communication equipment is provided which includes one of the above-described antenna devices, and a circuit substrate having an elongated rectangular shape including long and short sides, the antenna device has a width that is substantially equal to the length of one short side of the circuit substrate and is arranged along one short side and both long sides of the circuit substrate, the open end of one of the non-feed radiation electrodes is arranged to face the long side of the circuit substrate, and the open end of the other non-feed radiation electrode is arranged to face the other long side.

According to the radio communication equipment according to preferred embodiments of the present invention, case-currents occurring in two frequency bands are excited along the long sides and the short side of the circuit substrate. Thereby, the gain of the non-feed element arranged along the sides of the circuit substrate is greatly enhanced. Moreover, since the open ends of the two non-feed radiation electrodes arranged along the long sides and the short side of the circuit substrate are opposite to each other, the mutual interference between the adjacent non-feed elements is greatly reduced, and the separation between the frequency bands is greatly improved.

See col. 5, lines 24-46. By implementing a line element (i.e., one without a modified width) such as the one disclosed in Johnson, such a structure teaches away from Nagumo and potentially renders the whole antenna inoperable. For at least these reasons, applicant submits the rejection under 35 U.S.C. §103 is improper and should be withdrawn.


In light of the above, Applicant respectfully submits that claims 12-22 are both novel and non-obvious over the art of record. The Applicant respectfully requests that a timely Notice of Allowance be issued in this case. A petition for a one-month extension of time also accompanies this Response. If any additional fees are due in connection with this application as a whole, the

Examiner is authorized to deduct such fees from deposit account no. 02-1818. If such a deduction is made, please indicate the attorney docket no. (117393-030) on the account statement.

Respectfully submitted,

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Dated: March 12, 2007